

## Department of Energy

## § 431.18

all of these criteria, the criteria shall be given priority in the order in which they are listed. Within the limits imposed by the criteria, basic models shall be selected randomly.

(2) *Selection of units for testing.* For each basic model selected for testing,<sup>2</sup> a sample of units shall be selected at random and tested. The sample shall be comprised of production units of the basic model, or units that are representative of such production units. The sample size shall be not fewer than five units, except that when fewer than five units of a basic model would be produced over a reasonable period of time (approximately 180 days), then each unit shall be tested. In a test of compliance with a represented average or nominal efficiency:

(i) The average full-load efficiency of the sample  $\bar{X}$  which is defined by

$$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i,$$

where  $X_i$  is the measured full-load efficiency of unit  $i$  and  $n$  is the number of units tested, shall satisfy the condition:

$$\bar{X} \geq \frac{100}{1 + 1.05 \left( \frac{100}{RE} - 1 \right)}$$

where RE is the represented nominal full-load efficiency, and

(ii) The lowest full-load efficiency in the sample  $X_{\min}$ , which is defined by

$$X_{\min} = \min (X_i)$$

shall satisfy the condition

$$\bar{X}_{\min} \geq \frac{100}{1 + 1.15 \left( \frac{100}{RE} - 1 \right)}$$

(3) *Substantiation of an alternative efficiency determination method.* The basic models tested under § 431.17(a)(3)(i) must be selected for testing in accordance with paragraph (b)(1) of this section, and units of each such basic

model must be tested in accordance with paragraph (b)(2) of this section by an accredited laboratory that meets the requirements of § 431.18.

### § 431.18 Testing laboratories.

(a) Testing pursuant to § 431.17(a)(5)(ii) must be conducted in an accredited laboratory for which the accreditation body was:

(1) The National Institute of Standards and Technology/National Voluntary Laboratory Accreditation Program (NIST/NVLAP); or

(2) A laboratory accreditation body having a mutual recognition arrangement with NIST/NVLAP; or

(3) An organization classified by the Department, pursuant to § 431.19, as an accreditation body.

(b) NIST/NVLAP is under the auspices of the National Institute of Standards and Technology (NIST)/National Voluntary Laboratory Accreditation Program (NVLAP), which is part of the U.S. Department of Commerce. NIST/NVLAP accreditation is granted on the basis of conformance with criteria published in 15 CFR Part 285. The National Voluntary Laboratory Accreditation Program, "Procedures and General Requirements," NIST Handbook 150-10, February 2007, and Lab Bulletin LB-42-2009, Efficiency of Electric Motors Program, (referenced for guidance only, see § 431.14) present the technical requirements of NVLAP for the Efficiency of Electric Motors field of accreditation. This handbook supplements NIST Handbook 150, National Voluntary Laboratory Accreditation Program "Procedures and General Requirements," which contains 15 CFR part 285 plus all general NIST/NVLAP procedures, criteria, and policies. Information regarding NIST/NVLAP and its Efficiency of Electric Motors Program (EEM) can be obtained from NIST/NVLAP, 100 Bureau Drive, Mail Stop 2140, Gaithersburg, MD 20899-2140, (301) 975-4016 (telephone), or (301) 926-2884 (fax).

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<sup>2</sup>Components of similar design may be substituted without requiring additional testing if the represented measures of energy consumption continue to satisfy the applicable sampling provision.